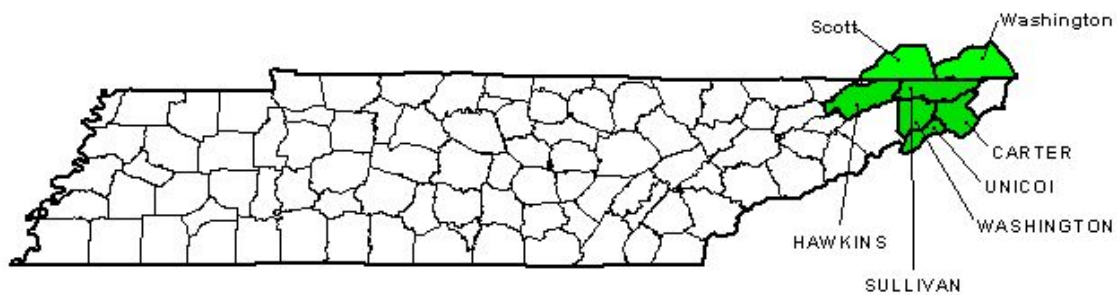


Johnson City-Kingsport-Bristol TN-VA MSA (Tri-Cities)

Local Air Quality Improvement Plan

Tennessee MSA Areas Pre-2000 Census



Johnson City-Kingsport-Bristol MSA Area

The Johnson City-Kingsport-Bristol TN-VA Metropolitan Statistical Area (hereafter referred to as JC-K-B MSA) encompasses two states and seven counties. It includes Carter, Hawkins, Sullivan, Unicoi, and Washington counties in upper East Tennessee, as well as Scott and Washington counties in southwest Virginia. In 2000, this MSA was listed as the 84th largest MSA within the United States.

Carter County, Tennessee

Geography/Topography

Carter County has a land area of 341 square miles and is located in the Appalachian Mountains east of Washington and Sullivan Counties.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Carter County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Carter County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Carter County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

Carter County does not have an ozone monitor.

For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of .086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

Population

Based on projections to 2002 from the 2000 census data, there are 56,746 persons living in Carter County (see Table 1 C). This indicates a population density of 341.05 persons per square mile. The population of Carter County is approximately 39.9% rural with the remaining 60.1% living in incorporated areas. The largest city in Carter County is Elizabethton (see Table 1 C).

Carter County's population from 1990 through 2000 increased by approximately 10% (51,589 to 56,742). The population is expected to decrease by 5.5% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Carter County represents approximately 12% of the total JC-K-B MSA population (see Table 1 C).

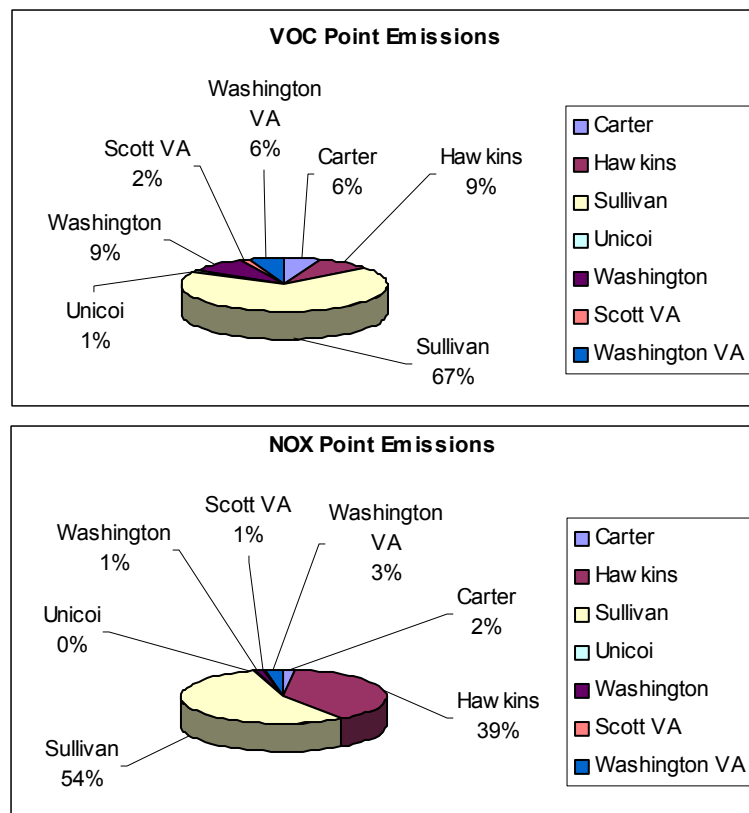
Air Emissions

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Carter County were estimated at 1.69 ton/day in 1999 which represents approximately 2% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Carter County were estimated at 8.5 ton/day in 1999 which represents approximately 6% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

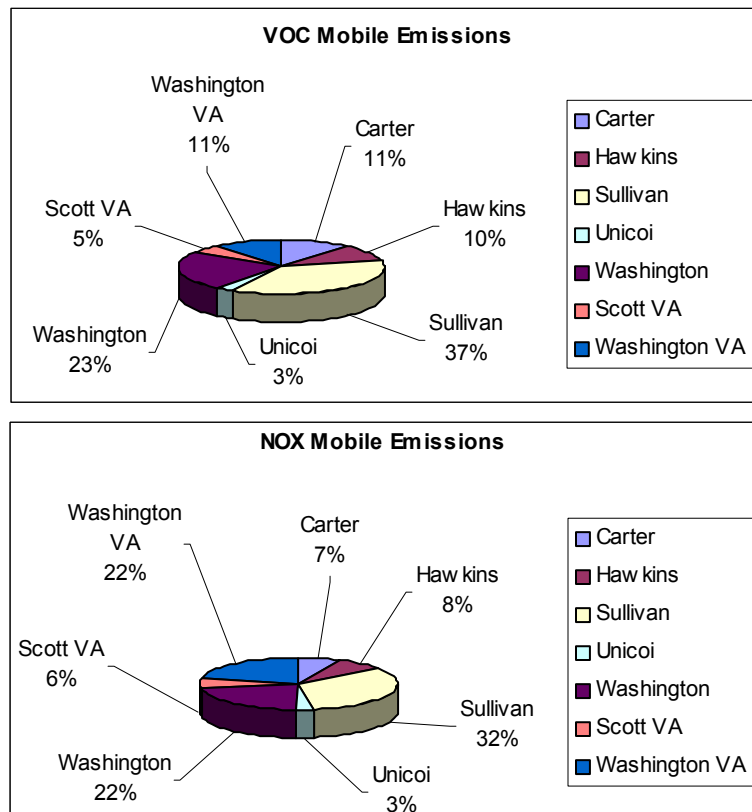


For NOX and VOC control, point sources located within Carter County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS).

Mobile source NOX emissions from Carter County were estimated at 5.22 ton/day in 1999 which represents approximately 7% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Carter County were estimated at 4.1 ton/day in 1999 which represents approximately 11% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

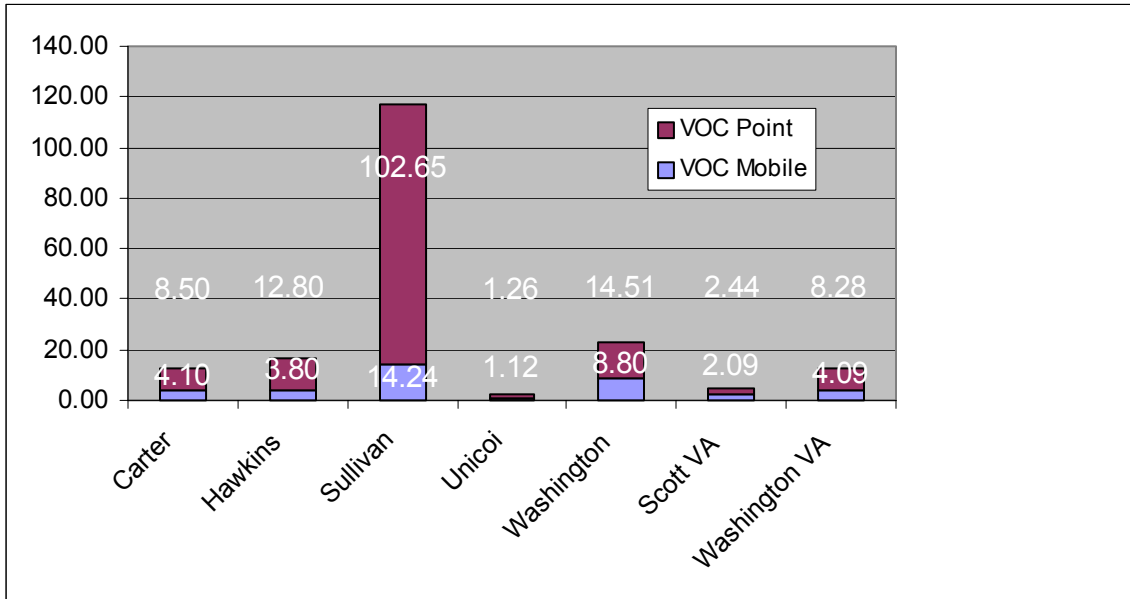
1999 NEI Mobile Source Emissions (ton/day)



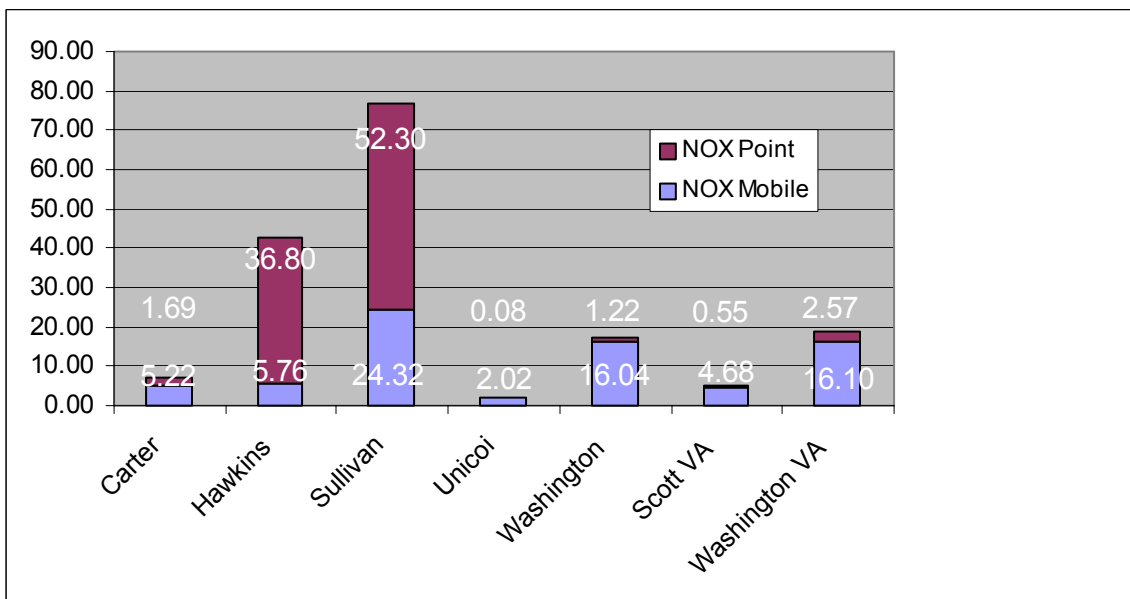
Commuting traffic from surrounding counties into Carter County is minimal. Commuting traffic from Carter County into surrounding counties is significant.

Commuting Classifications	
Not Significant	0-10%
Minimal	11-30%
High	31-50%
Significant	51% or more

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Carter County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Carter County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

Emission Reductions for the AS-4 EAC Attainment Strategy
Quantification of Control Measures

Control Measure by Source Category	Carter, TN		
	NOx TPD	VOC TPD	CO TPD
Area			
Open Burning Ban -resid. Garbage2A.	0.049	0.060	0.700
Open Burning Ban -yard waste2B.	0.002	0.013	0.071
Open Burning Ban - Land clearing2C.	0.074	0.272	0.650
Ozone Action Day (Reduce VMT 1%)	0.023	0.025	0.230

Please see Table 7-4e on page 7-23 of the Modeling Analysis Technical Support Document for additional details and further discussion.

Hawkins County, Tennessee

Geography/Topography

Hawkins County has a land area of 487 square miles and is located in the ridge and valley terrain of the East Grand Division of the state north of I-81 and just west of the Kingsport area bordering Virginia.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Hawkins County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Hawkins County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Hawkins County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

Hawkins County does not have an ozone monitor.

For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of .086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

Population

Based on projections to 2002 from the 2000 census data, there are 54,793 persons living in Hawkins County (see Table 1 C). This indicates a population density of 112.6 persons per square mile. The population of Hawkins County is approximately 61.4% rural with the remaining 38.6% living in incorporated areas. The largest city in Hawkins County is Church Hill (see Table 1 C).

Hawkins County's population from 1990 through 2000 increased by approximately 20.1% (44,617 to 53,563). The population is expected to increase by 1.8% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Hawkins County represents approximately 11% of the total JC-K-B MSA population (see Table 1 C).

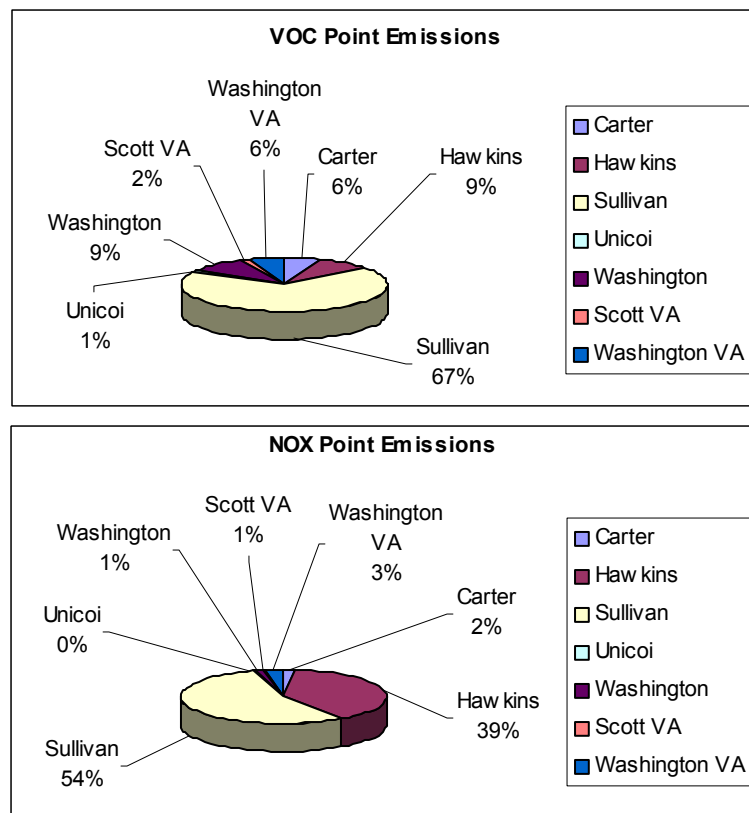
Air Emissions

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Hawkins County were estimated at 36.8 ton/day in 1999 which represents approximately 39% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Hawkins County were estimated at 12.8 ton/day in 1999 which represents approximately 9% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

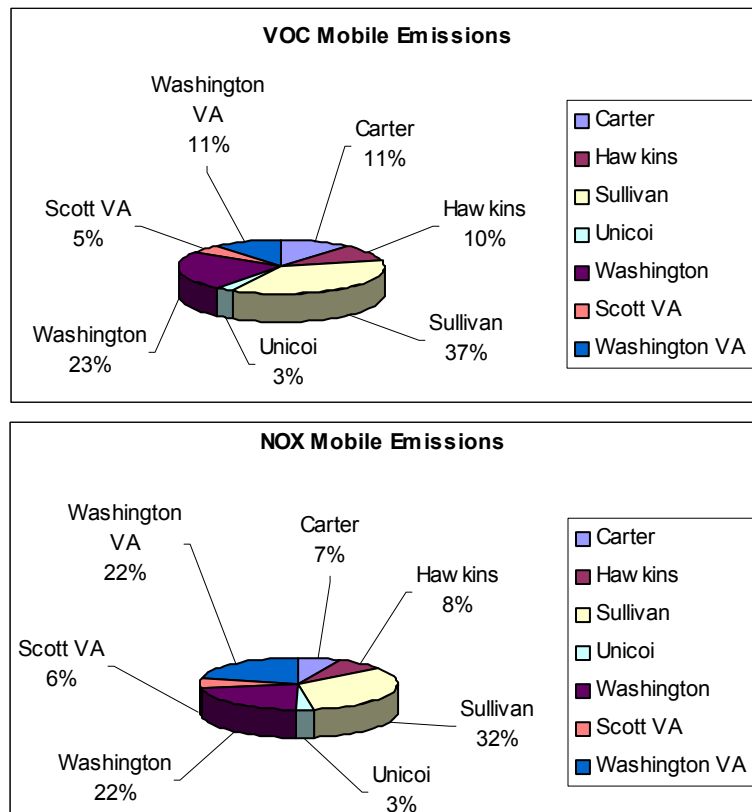


For NOX and VOC control, point sources located within Hawkins County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS).

Mobile source NOX emissions from Hawkins County were estimated at 5.76 ton/day in 1999 which represents approximately 8% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Hawkins County were estimated at 3.8 ton/day in 1999 which represents approximately 10% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

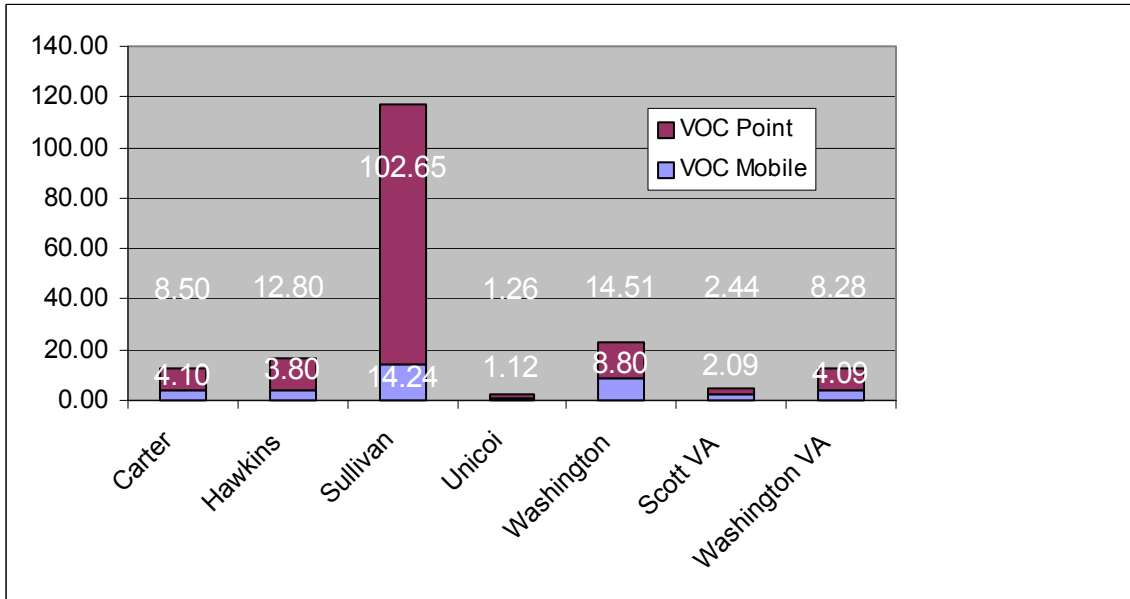
1999 NEI Mobile Source Emissions (ton/day)



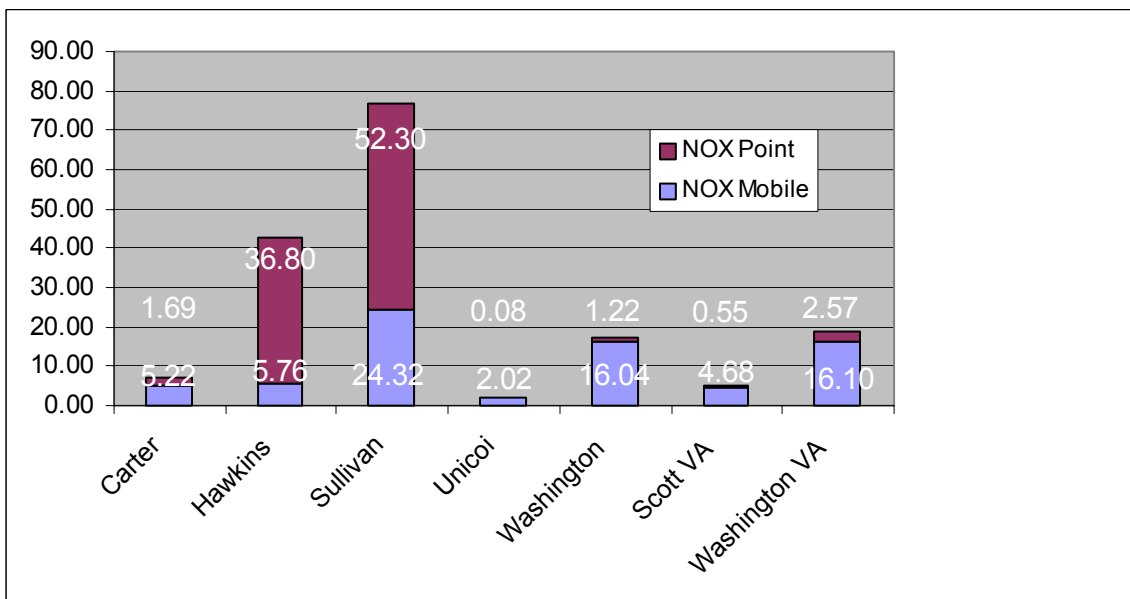
Commuting traffic from surrounding counties into Hawkins County is minimal. Commuting traffic from Hawkins County into surrounding counties is high.

Commuting Classifications	
Not Significant	0-10%
Minimal	11-30%
High	31-50%
Significant	51% or more

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Hawkins County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Hawkins County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

Emission Reductions for the AS-4 EAC Attainment Strategy
Quantification of Control Measures

Control Measure by Source Category	Hawkins, TN		
	NOx TPD	VOC TPD	CO TPD
Area			
Open Burning Ban -resid. Garbage2A.	0.060	0.070	0.860
Open Burning Ban -yard waste2B.	0.003	0.016	0.087
Open Burning Ban - Land clearing2C.	0.070	0.257	1.500
Ozone Action Day (Reduce VMT 1%)	0.022	0.024	0.220

Please see Table 7-4e on page 7-23 of the Modeling Analysis Technical Support Document for additional details and further discussion.

Sullivan County, Tennessee

Geography/Topography

Sullivan County has a land area of 413 square miles and is located in the Valley and Ridge region of the Appalachian Mountains in the East Grand Division of the State. Sullivan County is located along the I-81 corridor.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Sullivan County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Sullivan County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Sullivan County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County shows an 8-hour design value of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

Population

Based on projections to 2002 from the 2000 census data, there are 153,051 persons living in Sullivan County (see Table 1 C). This indicates a population density of 371 persons per square mile. The population of Sullivan County is approximately 26.5% rural with the remaining 73.5% living in incorporated areas. The largest cities in Sullivan County are Kingsport and Bristol (see Table 1 C).

Sullivan County's population from 1990 through 2000 increased by approximately 6% (143,819 to 153,048). The population is expected to increase by 2% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Sullivan County represents approximately 32% of the total JC-K-B MSA population (see Table 1 C).

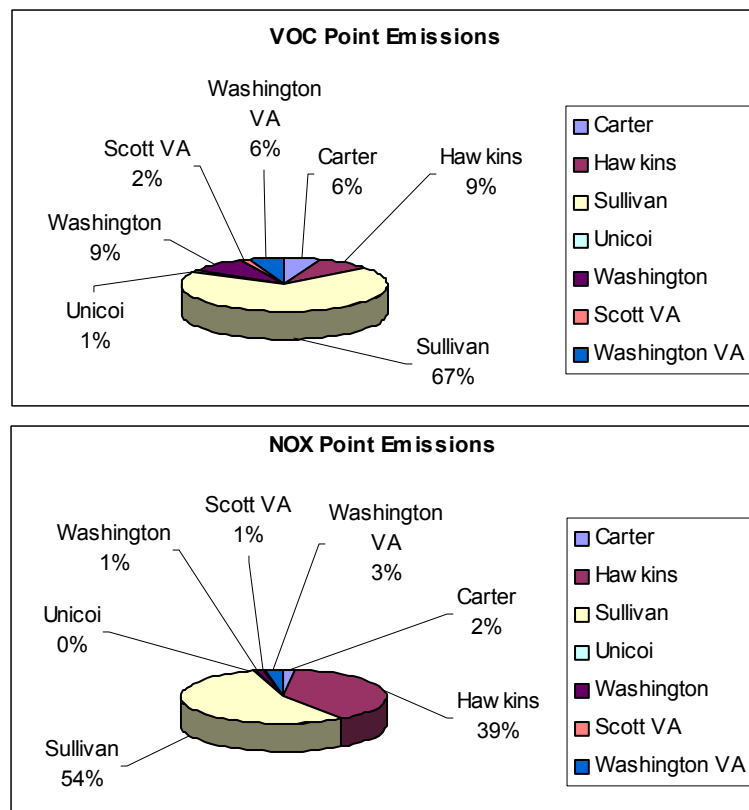
Air Emissions

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Sullivan County were estimated at 52.30 ton/day in 1999 which represents approximately 54% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Sullivan County were estimated at 102.65 ton/day in 1999 which represents approximately 67% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

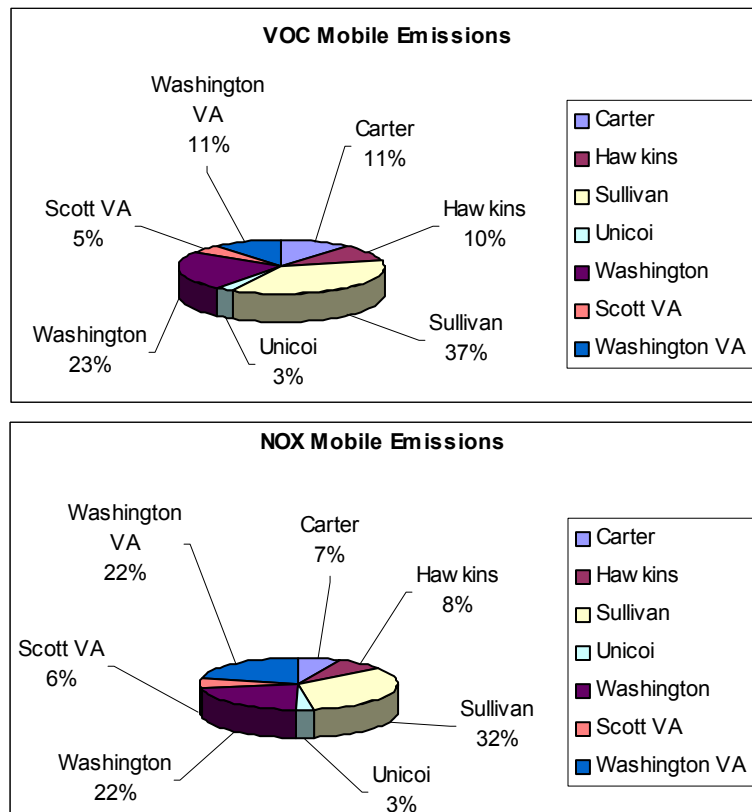


For NOX and VOC control, point sources located within Sullivan County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS).

Mobile source NOX emissions from Sullivan County were estimated at 24.32 ton/day in 1999 which represents approximately 32% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Sullivan County were estimated at 14.24 ton/day in 1999 which represents approximately 37% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

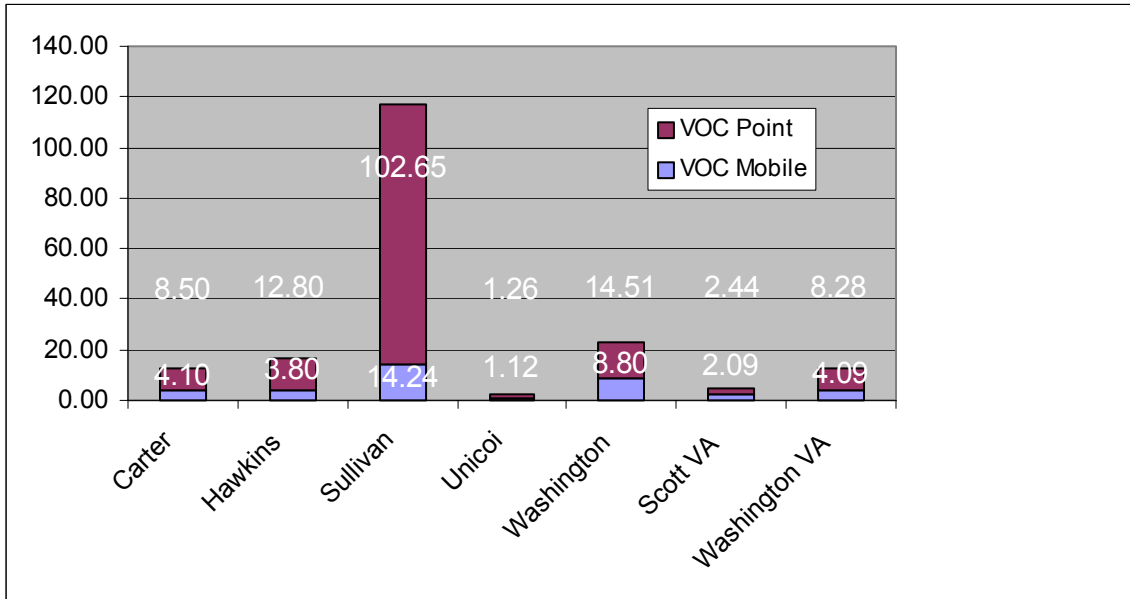
1999 NEI Mobile Source Emissions (ton/day)



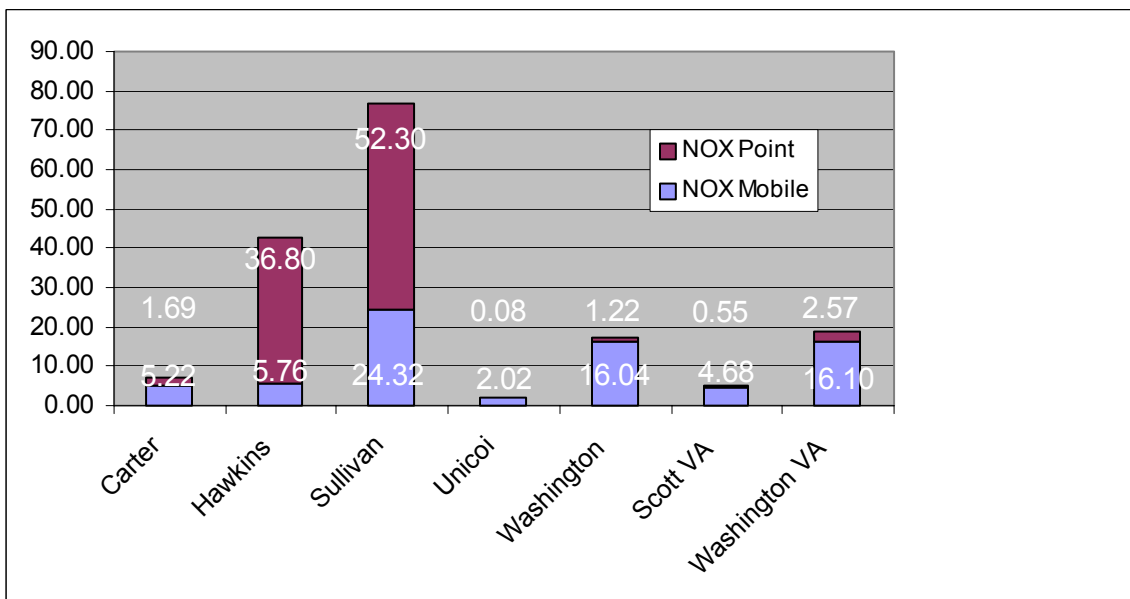
Commuting traffic from surrounding counties into Sullivan County is high.
Commuting traffic from Sullivan County into surrounding counties is minimal.

Commuting Classifications	
Not Significant	0-10%
Minimal	11-30%
High	31-50%
Significant	51% or more

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Sullivan County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Sullivan County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

Emission Reductions for the AS-4 EAC Attainment Strategy
Quantification of Control Measures

Control Measure by Source Category	Sullivan, TN		
	NOx TPD	VOC TPD	CO TPD
Area			
Open Burning Ban -resid. Garbage2A.	0.076	0.092	1.100
Open Burning Ban -yard waste2B.	0.003	0.020	0.108
Open Burning Ban - Land clearing2C.	0.199	0.735	9.183
Ozone Action Day (Reduce VMT 1%)	0.120	0.090	0.900

Please see Table 7-4e on page 7-23 of the Modeling Analysis Technical Support Document for additional details and further discussion.

Unicoi County, Tennessee

Geography/Topography

Unicoi County has a land area of 186 square miles and is located in the Appalachian Mountains Ridge region of the East Grand Division of the State. It is located in the southeast portion of the MSA, and is in the elevated terrain of the Cherokee National Forest.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Unicoi County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Unicoi County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Unicoi County is performed by the Johnson City-Kingsport-Bristol Tennessee (JC-K-B) Metropolitan Planning Organization.

Air Monitoring

Unicoi County does not have an ozone monitor. For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of .086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

Population

Based on projections to 2002 from the 2000 census data, there are 17,740 persons living in Unicoi County (see Table 1 C). This indicates a population density of 95 persons per square mile. The population of Unicoi County is approximately 45.8% rural with the remaining 54.2% living in incorporated areas. The largest city in Unicoi County is Erwin (see Table 1 C).

Unicoi County's population from 1990 through 2000 increased by approximately 7% (16,534 to 17,667). The population is expected to increase by 2% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Unicoi County represents approximately 4% of the total JC-K-B MSA population (see Table 1 C).

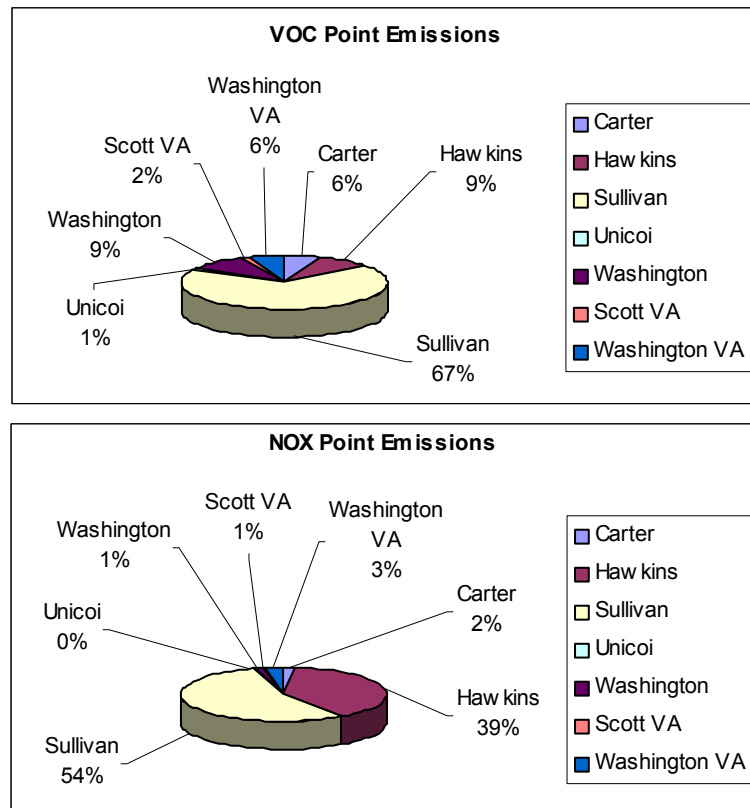
Air Emissions

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Unicoi County were estimated at 0.08 ton/day in 1999 which represents approximately less than one percent of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Unicoi County were estimated at 1.26 ton/day in 1999 which represents approximately 1% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

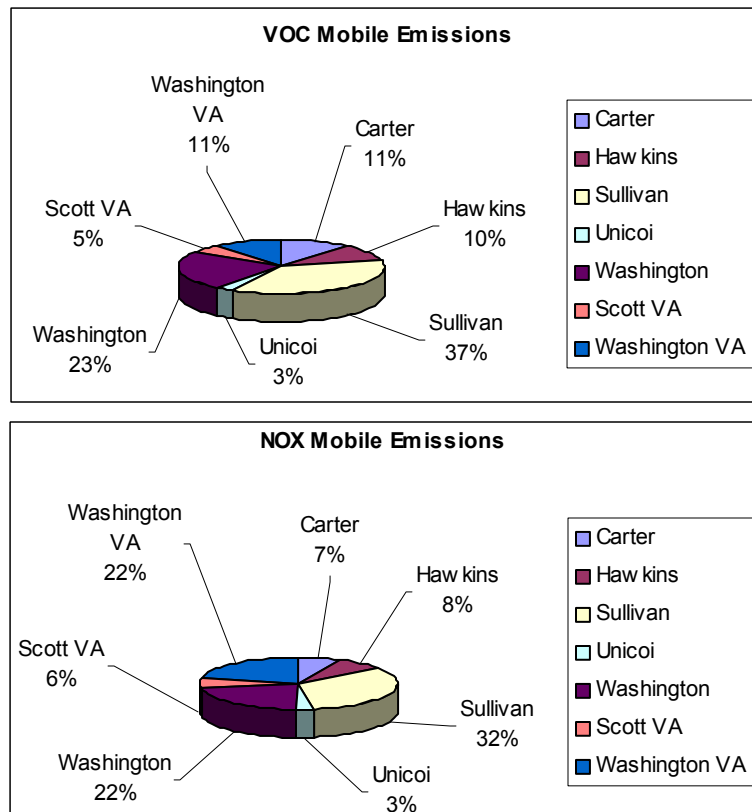


For NOX and VOC control, point sources located within Unicoi County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS).

Mobile source NOX emissions from Unicoi County were estimated at 2.02 ton/day in 1999 which represents approximately 3% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Unicoi County were estimated at 1.12 ton/day in 1999 which represents approximately 3% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

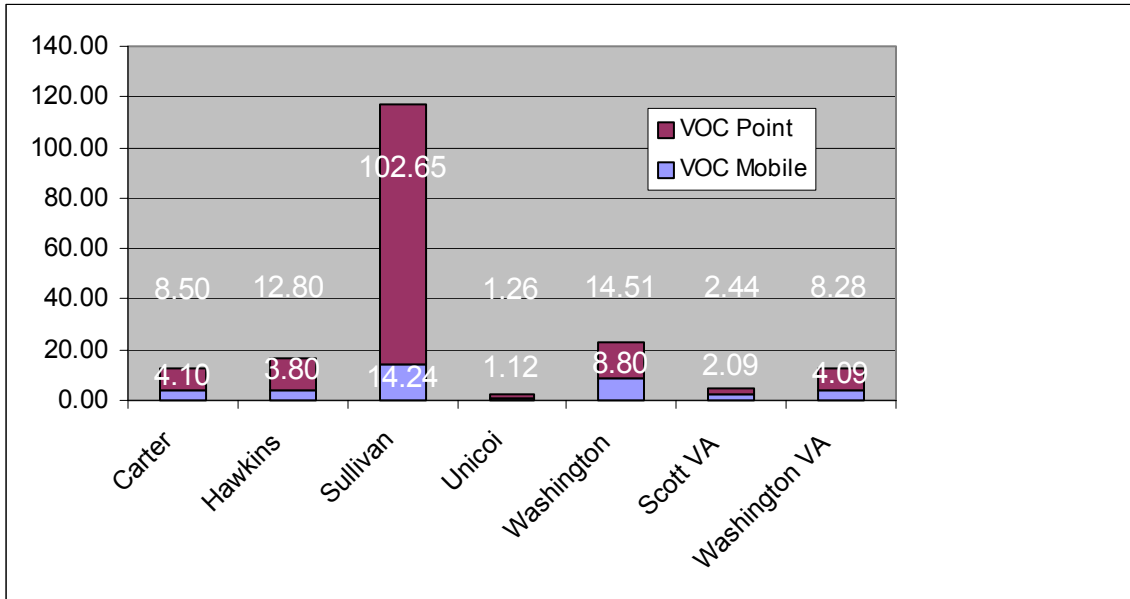
1999 NEI Mobile Source Emissions (ton/day)



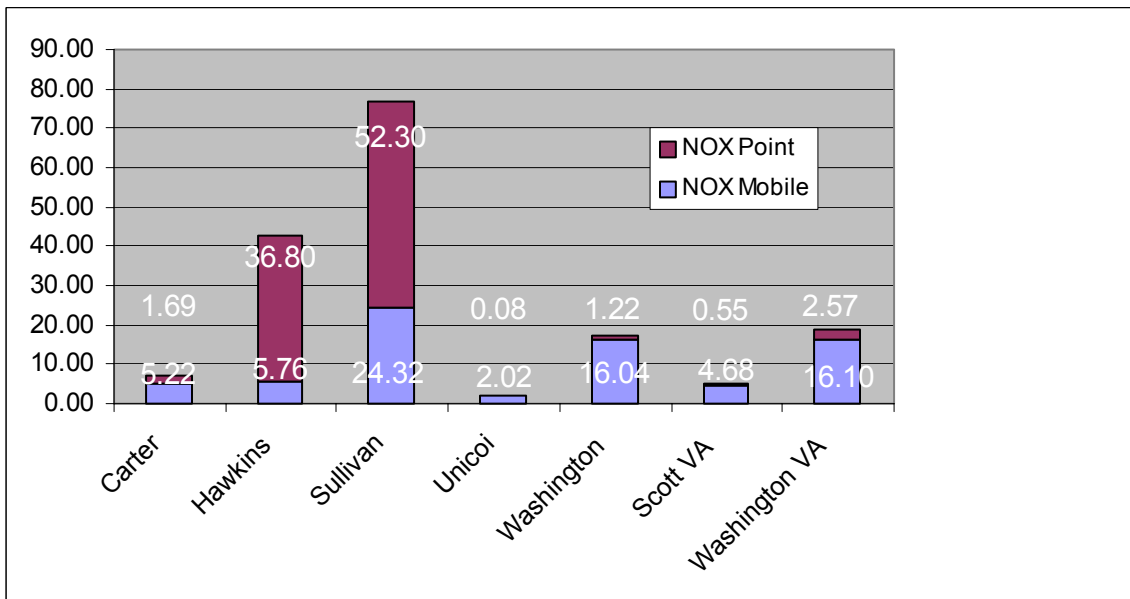
Commuting traffic from surrounding counties into Unicoi County is minimal. Commuting traffic from Unicoi County into surrounding counties is high.

Commuting Classifications	
Not Significant	0-10%
Minimal	11-30%
High	31-50%
Significant	51% or more

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Unicoi County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Unicoi County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

Emission Reductions for the AS-4 EAC Attainment Strategy
Quantification of Control Measures

Control Measure by Source Category	Unicoi, TN		
	NOx TPD	VOC TPD	CO TPD
Area			
Open Burning Ban -resid. Garbage2A.	0.022	0.026	0.031
Open Burning Ban -yard waste2B.	0.001	0.006	0.031
Open Burning Ban - Land clearing2C.	0.023	0.085	1.060
Ozone Action Day (Reduce VMT 1%)	0.010	0.010	0.100

Please see Table 7-4e on page 7-23 of the Modeling Analysis Technical Support Document for additional details and further discussion.

Washington County, Tennessee

Geography/Topography

Washington County has a land area of 326 square miles and is located in the Valley and Ridge region of the East Grand Division of the State. It is located in the southeast portion of the MSA, and the southeast portion of the county is in elevated terrain within the boundary of the Cherokee National Forest.

Meteorological Information

Wind data from Bristol, TN for the period of record from 1988 through 1992 was determined to be representative for Washington County. The predominate wind direction and speed is from the south-southwest at 7 to 10 knots (see Figure 1 A). The mean high temperature for July is 84.8 F, while the mean low is 63.5 F. The mean July precipitation is 4.2 inches. The period of record for this data is from 1971 through 2000.

Planning Authority

The authority for air quality planning for Washington County resides with the Tennessee Department of Environment and Conservation. Transportation planning for Washington County is performed by the Tennessee Department of Environment and Conservation.

Air Monitoring

Carter County does not have an ozone monitor. For the 2001-2003 monitoring period, the ozone monitors located in Sullivan County are showing 8-hour design values of 0.086 parts per million (ppm) which would be classified as nonattainment (see Table 1 A).

Population

Based on projections to 2002 from the 2000 census data, there are 109,019 persons living in Washington County (see Table 1 C). This indicates a population density of 334 persons per square mile. The population of Washington County is approximately 32.6% rural with the remaining 67.4% living in incorporated areas.

Washington County's population from 1990 through 2000 increased by approximately 16% (92,621 to 107,198). The population is expected to increase by 8% between 2000 and 2010 (see Table 1 B).

Based on the 2002 population data for the entire JC-K-B MSA, Washington County represents approximately 23% of the total JC-K-B MSA population (see Table 1 C).

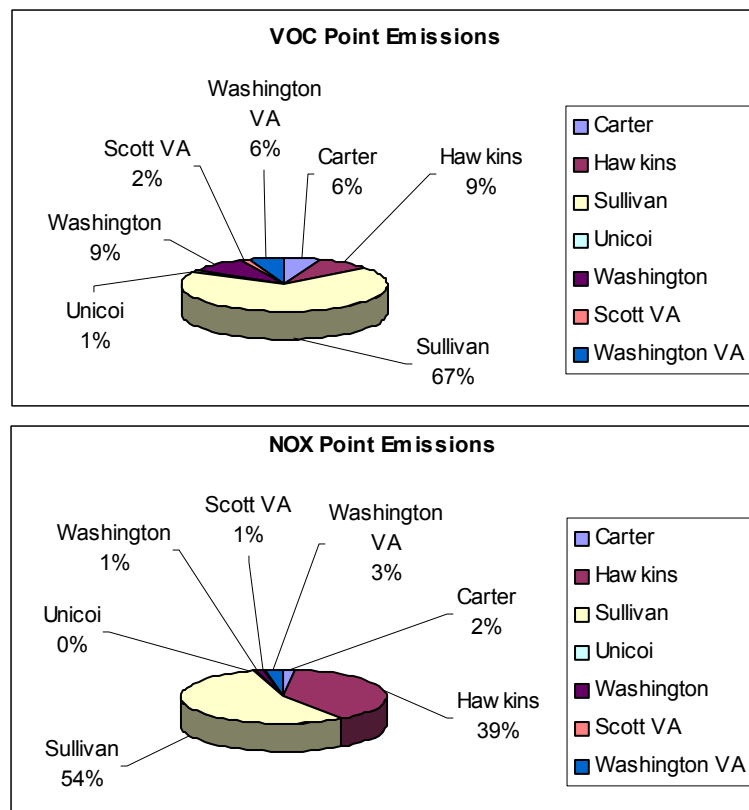
Air Emissions

All air emission estimates were derived from EPA's 1999 National Emission Inventory (NEI) database.

Point source NOX emissions from Washington County were estimated at 1.22 ton/day in 1999 which represents approximately 1% of the 95.21 ton/day of overall NOX point source emissions from the JC-K-B MSA (see Table 1 D).

Point source VOC emissions from Washington County were estimated at 14.51 ton/day in 1999 which represents approximately 9% of the 150.45 ton/day of overall VOC point source emissions from the JC-K-B MSA (see Table 1 D).

1999 NEI Point Source Emissions (ton/day)

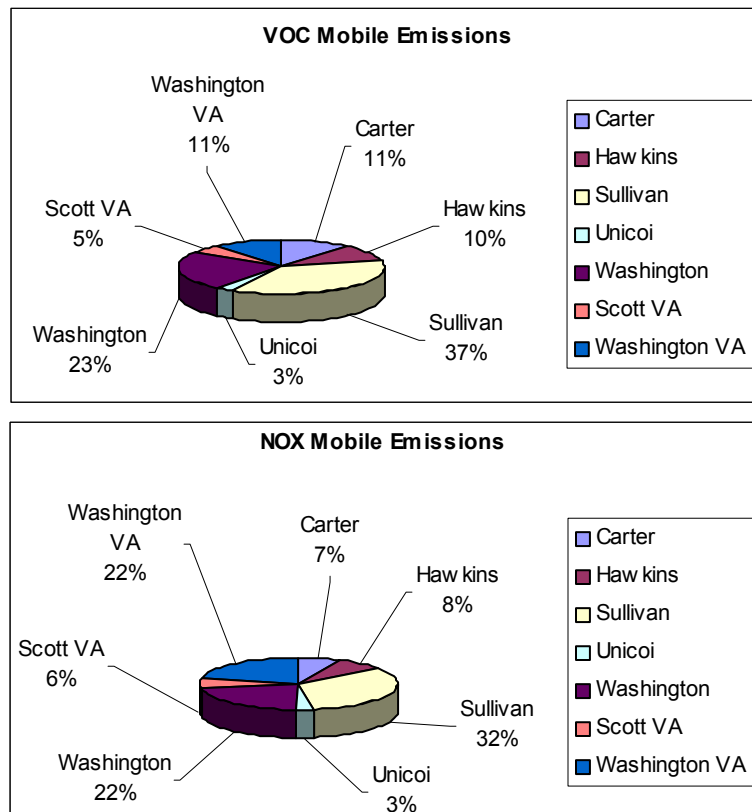


For NOX and VOC control, point sources located within Washington County are subject to Prevention of Significant Deterioration (PSD) requirements, Control Technology Guideline Reasonable Available Control Technology (CTG RACT) requirements, Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAP), and New Source Performance Standards (NSPS).

Mobile source NOX emissions from Washington County were estimated at 16.04 ton/day in 1999 which represents approximately 22% of the 74.14 ton/day of overall NOX mobile source emissions from the JC-K-B MSA (see Table 1 D).

Mobile source VOC emissions from Washington County were estimated at 8.80 ton/day in 1999 which represents approximately 23% of the 38.24 ton/day of overall VOC mobile source emissions from the JC-K-B MSA (see Table 1 D).

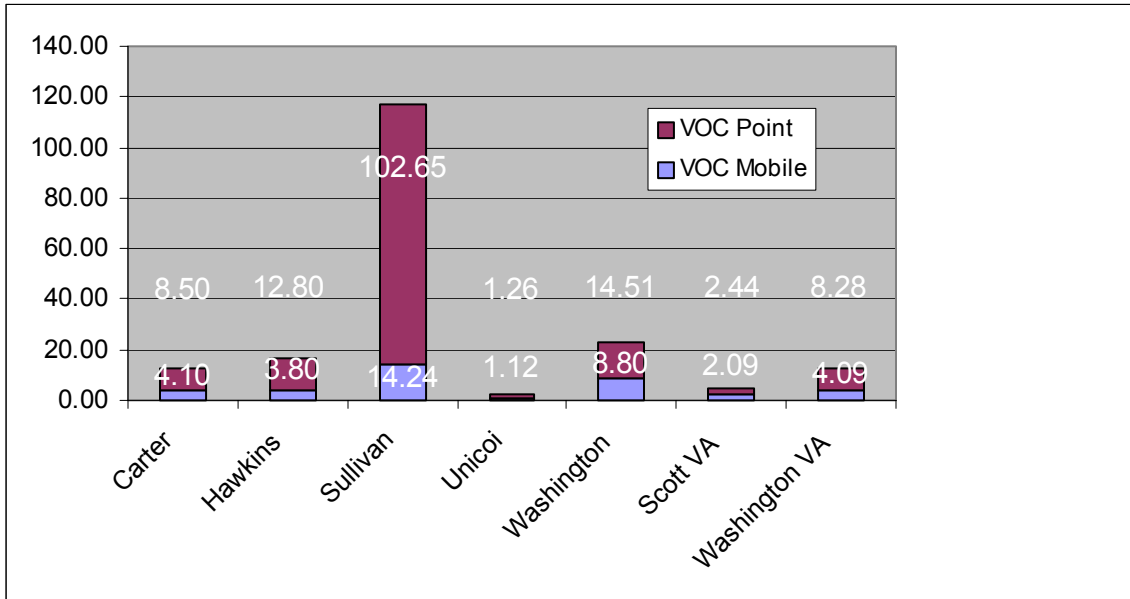
1999 NEI Mobile Source Emissions (ton/day)



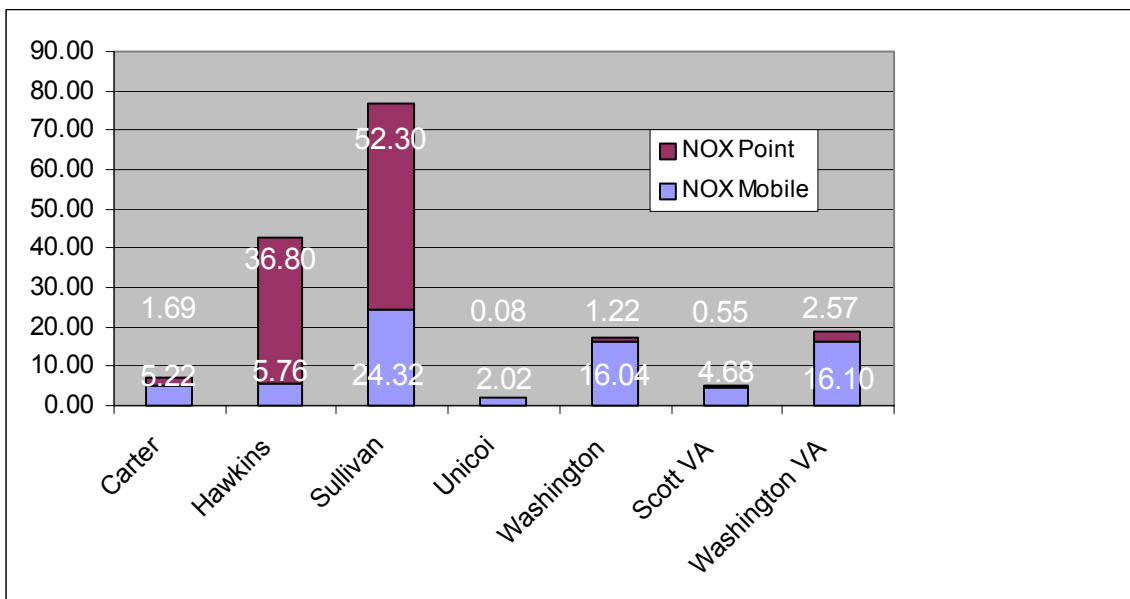
Commuting traffic from surrounding counties into Washington County is minimal. Commuting traffic from Washington County into surrounding counties is high.

Commuting Classifications	
Not Significant	0-10%
Minimal	11-30%
High	31-50%
Significant	51% or more

1999 NEI VOC Contribution (ton/day)



1999 NEI NOX Contribution (ton/day)



Summary

Local air pollution emission reductions for Washington County are listed in the Quantification of Control Measures Table. The local measures listed are to be implemented by the local government of Washington County. All local measures are to be implemented by ozone season of 2007, at the latest. The most desirable implementation is the soonest time possible (ideally ozone season of 2005). Local jurisdictions understand that measures are to be implemented on a schedule that concurs with the schedule in the attainment demonstration modeling.

Attainment demonstration modeling analysis conducted by Systems Application International (SAI) demonstrates that the Tri-Cities EAC will achieve the NAAQS for ozone by the end of 2007. The projected 2007 estimated ozone design value for the Tri-Cities EAC is: 84.

For a Weight of Evidence Analysis, review the summary Attainment Demonstration for the Tri-Cities Area and see the complete Weight of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Documentation (TSD) for details.

Some voluntary measures were not included in the modeling demonstration. These measures will, it is expected, create even further reductions in the ozone level of the EAC. Effectiveness of these measures may not necessarily be quantifiable, however, given the concern for air quality in the region, any reduction is viewed as positive.

Please review the detailed attainment demonstration contained in the Modeling Analysis Technical Support Documentation, which includes specific information on the EAC's control measures and subsequent ozone design value. County level endorsement of their local control measures can be found in Attachment 1.

Emission Reductions for the AS-4 EAC Attainment Strategy
Quantification of Control Measures

Control Measure by Source Category	Washington, TN		
	NOx TPD	VOC TPD	CO TPD
Area			
Open Burning Ban -resid. Garbage2A.	0.063	0.077	0.890
Open Burning Ban -yard waste2B.	0.003	0.017	0.091
Open Burning Ban - Land clearing2C.	0.139	0.515	2.300
Ozone Action Day (Reduce VMT 1%)	0.075	0.060	0.570

Please see Table 7-4e on page 7-23 of the Modeling Analysis Technical Support Document for additional details and further discussion.

JC-K-B MSA

Figure 1 A
JC-K-B MSA
Wind Rose

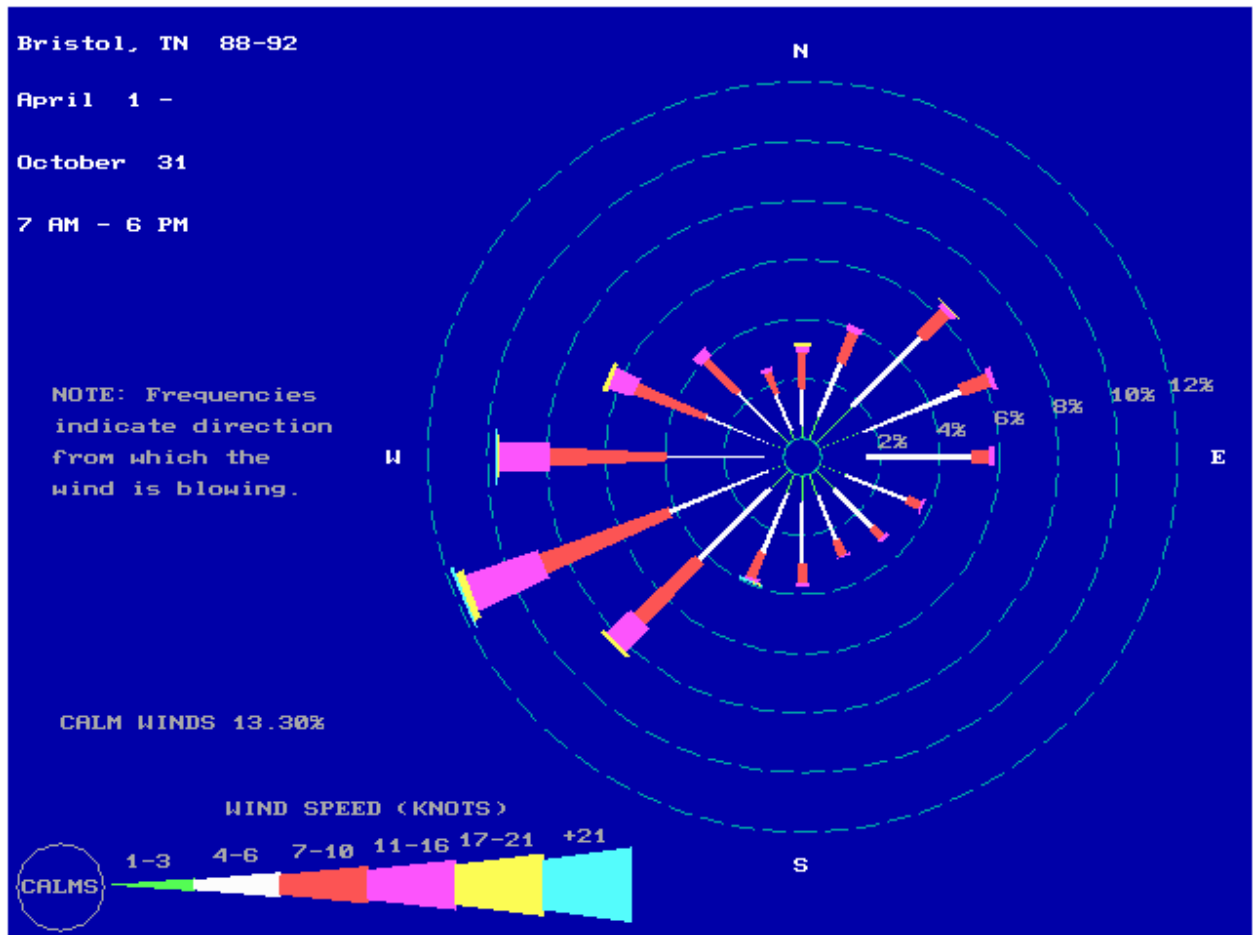


Figure 1 B
JC-K-B MSA
1999 NEI VOC and NOX Emissions
(ton/day)

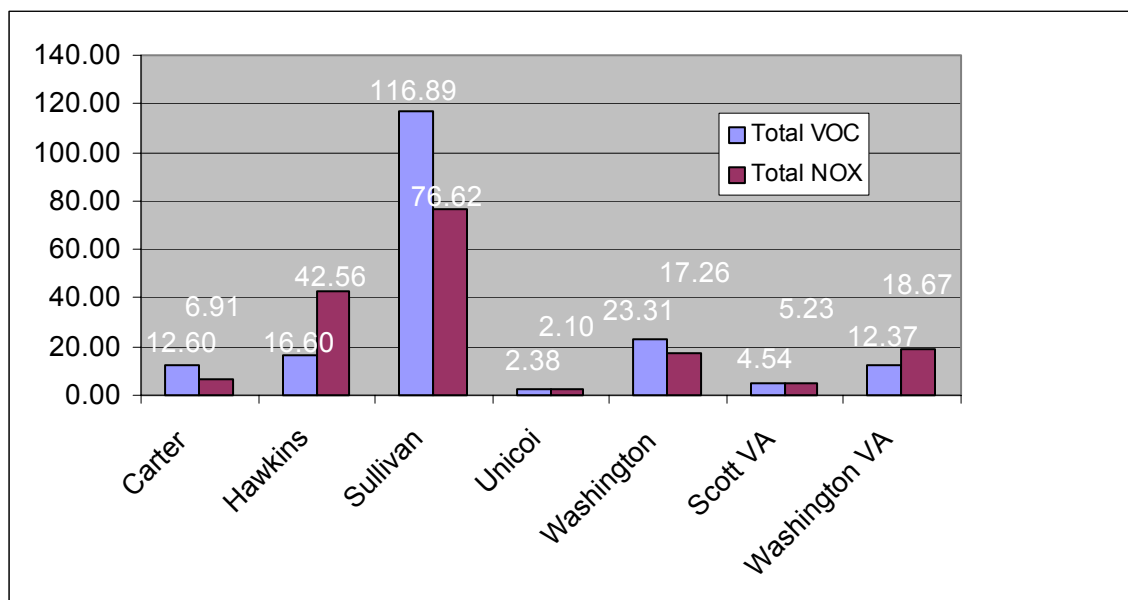


Table 1 A
JC-K-B MSA
Ozone Design Values
(ppm)

County	Site Name	MONITOR ID	1999 2001 Design Value PPM	2000 2002 Design Value PPM	2001 2003 Design Value PPM
Sullivan	Hill Road	471632002 - 1	0.087	0.090	0.086
Sullivan	Ketron Middle School On Bloomingdale Rd.	471632003 - 1	0.090	0.092	0.086

Table 1 B
JC-K-B MSA
Population Growth Data

County	Population 1990	Population 2000	PERCENT CHANGE 1990 - 2000	Population 2002	Area in Square Miles	2002 Pop. Density (Sq. Mile)	Projection 2010	% Growth 2000 - 2010
Tennessee								
Carter	51,589	56,742	10.0	56,746	341.05	166.4	53,630	-5.5
Hawkins	44,617	53,563	20.1	54,793	486.66	112.6	54,521	1.8
Sullivan	143,819	153,048	6.4	153,051	413.02	370.6	156,630	2.3
Unicoi	16,534	17,667	6.9	17,740	186.14	95.3	18,059	2.2
Washington	92,621	107,198	15.7	109,019	326.31	334.1	115,998	8.2
Virginia								
Scott	23,204	23,403	0.9				23,400	0.0
Washington	45,887	51,103	11.4				52,400	2.5
Bristol City	18,426	17,367	-5.7				16,800	-3.3
TOTALS	436,697	480,091		391,349			491,438	

Table 1 C
JC-K-B MSA
2002 Population Estimates

Tennessee Counties	Population
Carter	56,746
*Elizabethton	(13,372)
Hawkins	54,793
*Church Hill	(5,916)
Sullivan	153,051
*Bristol	(24,821)
*Kingsport	(44,905)
Unicoi	17,740
*Erwin	(5,610)
Washington	109,019
*Johnson City	(55,469)
TN TOTALS	391,349

Virginia Counties	Population
*Scott	23,403
*Washington	51,103
*Bristol City	17,367
VA TOTALS	91,873

TN & VA TOTALS	483,222
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* Based on 2000 Census Data

Table 1 D
JC-K-B MSA
1999 NEI VOC and NOX Emissions
(ton/day)

County	VOC			NOX		
	Mobile	Point	Total	Mobile	Point	Total
Carter	4.10	8.50	12.60	5.22	1.69	6.91
Hawkins	3.80	12.80	16.60	5.76	36.80	42.56
Sullivan	14.24	102.65	116.89	24.32	52.30	76.62
Unicoi	1.12	1.26	2.38	2.02	0.08	2.10
Washington	8.80	14.51	23.31	16.04	1.22	17.26
Scott VA	2.09	2.44	4.54	4.68	0.55	5.23
Washington VA	4.09	8.28	12.37	16.10	2.57	18.67
TOTAL	38.24	150.45	188.69	74.14	95.21	169.35

Summary Attainment Demonstration For The Tri-Cities Area

The attainment and screening tests and additional corroborative analyses indicate that the Tri-Cities EAC area will be in attainment of the 8-hour ozone standard by 2007.

Variations in the selection of days or the radius of influence assumptions employed in the application of the attainment test do not alter the outcome of the modeled attainment test.

There are no locations within a subdomain encompassing the Tri-Cities EAC area for which high ozone concentrations (greater than any near a monitor) are consistently simulated. The values of the simulated ozone exposure metrics indicate a significant reduction in 8-hour ozone for the 2007 AS-4 control measures simulation - approximately 50 percent for each of the exposure-type metrics. Estimates of modeling system noise also suggest that, relative to the 2007 baseline simulation, the simulated ozone reductions associated with the AS-4 control measures are meaningful within the context of the simulation – that is, the measures are expected to result in meaningful further ozone reductions by 2007, compared to the baseline values.

Both of the monitoring sites in the Tri-Cities area have future-year estimated design values for 8-hour ozone that are less than or equal to 84 ppb. The areawide 2007 EDV is 84 ppb if the 2000-2002 design value is used, 80 ppb if the 2001-2003 design value is used, and 82 ppb if a meteorologically adjusted design value is used.

Please see the complete Weight Of Evidence discussion presented in Chapter 8 of the Modeling Analysis Technical Support Document (TSD) for details.

Attachment 1